-continued

<210> SEQ ID NO 197
<211> LENGTH: 104
<212> TYPE: PRT
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: amino acid sequence of kappa light chain constant region

<400> SEQUENCE: 197

Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys
1 5 10 15

Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg
20 25 30

Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn
35 40 45

Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser
50 55 60

Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys
65 70 75 80

Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr
85 90 95

Lys Ser Phe Asn Arg Gly Glu Cys
100

1. A CD131-binding protein comprising an antigen binding domain of an antibody, wherein the antigen binding domain:

(a) binds to or specifically binds to CD131 and neutralizes signaling by interleukin (IL) 3, IL-5 and granulocyte-macrophage colony stimulating factor (GM-CSF), and wherein the CD131-binding protein inhibits GM-CSF-induced proliferation of TF-1 erythroleukemic cells with an IC50 of at least 700 nM;

(b) binds to or specifically binds to an epitope within site 2 of CD131 and neutralizes signaling by interleukin (IL) 3, IL-5 and granulocyte-macrophage colony stimulating factor (GM-CSF);

(c) binds to an epitope formed upon dimerization of two CD131 polypeptides;

(d) binds to residues within domain 1 of a CD131 polypeptide and residues within domain 4 of another CD131 polypeptide;

(e) binds to or specifically binds to CD131 and neutralizes signaling by interleukin (IL) 3, IL-5 and granulocyte-macrophage colony stimulating factor (GM-CSF), and wherein the CD131-binding protein binds to one or more of the following mutant polypeptides;

(i) a mutant polypeptide comprising the sequence set forth in SEQ ID NO: 119;

(ii) a mutant polypeptide comprising the sequence set forth in SEQ ID NO: 123;

(iii) a mutant polypeptide comprising the sequence set forth in SEQ ID NO: 124;

(iv) a mutant polypeptide comprising the sequence set forth in SEQ ID NO: 135;

(v) a mutant polypeptide comprising the sequence set forth in SEQ ID NO: 131;

(vi) a mutant polypeptide comprising the sequence set forth in SEQ ID NO: 136;

(vii) a mutant polypeptide comprising the sequence set forth in SEQ ID NO: 137;

(viii) a mutant polypeptide comprising the sequence set forth in SEQ ID NO: 139;

(ix) a mutant polypeptide comprising the sequence set forth in SEQ ID NO: 145, at a level that is reduced compared to the level of binding of the CD131-binding protein to a polypeptide comprising the sequence set forth in SEQ ID NO: 192: or

(f) binds to or specifically binds to CD131 and neutralizes signaling by interleukin (IL) 3, IL-5 and granulocyte-macrophage colony stimulating factor (GM-CSF), and wherein the CD131-binding protein competitively inhibits binding of antibody 9A2 comprising a light chain variable region (V_L) comprising the sequence set forth in SEQ ID NO: 5 and a heavy chain variable region (V_H) comprising the sequence set forth in SEQ ID NO: 20.

2.-**7**. (canceled)

8. The CD131-binding protein of claim **1**, wherein the antigen binding domain binds to or specifically binds to CD131 and neutralizes signaling by interleukin (IL) 3, IL-5 and granulocyte-macrophage colony stimulating factor (GM-CSF), and wherein the antigen binding domain comprises at least one of:

(i) a heavy chain variable region (V_H) comprising a complementarity determining region (CDR) 1 comprising a sequence at least about 40% identical to the sequence set forth between amino acids 26-35 of SEQ ID NO: 20, a CDR2 comprising a sequence at least about 65% identical to the sequence set forth between amino acids 50-66 of SEQ ID NO: 20 and a CDR3